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ABSTRACT

A study was made to determine: (1) which students apply for financial aid; (2) which students receive financial aid; (3) the role of medical schools, federal and state governments, private foundations and lending institutions, and the student and their parents in supplying the income needed to meet student expenses; and (4) the types of income (e.g., loans, scholarships, family contributions, etc.) important in financing medical students. The data base used in this study was derived from a representative national sample of 7,261 anonymous questionnaires, which included 15 percent of the total enrollment of each of the 110 medical schools participating in the survey. Comparisons are made for three major groups of students: (1) those who did not apply for aid; (2) those who applied for but did not receive aid; and (3) those who applied for and received aid. The above groups are then analyzed by their demographic background characteristics and the amount of income received from funds such as scholarships, loans, contributions from parents and relatives, and student earnings and savings. (Author/SPG)

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Studies of Medical Student Financing

Medical Student Finances and Personal Characteristics 1974-1975

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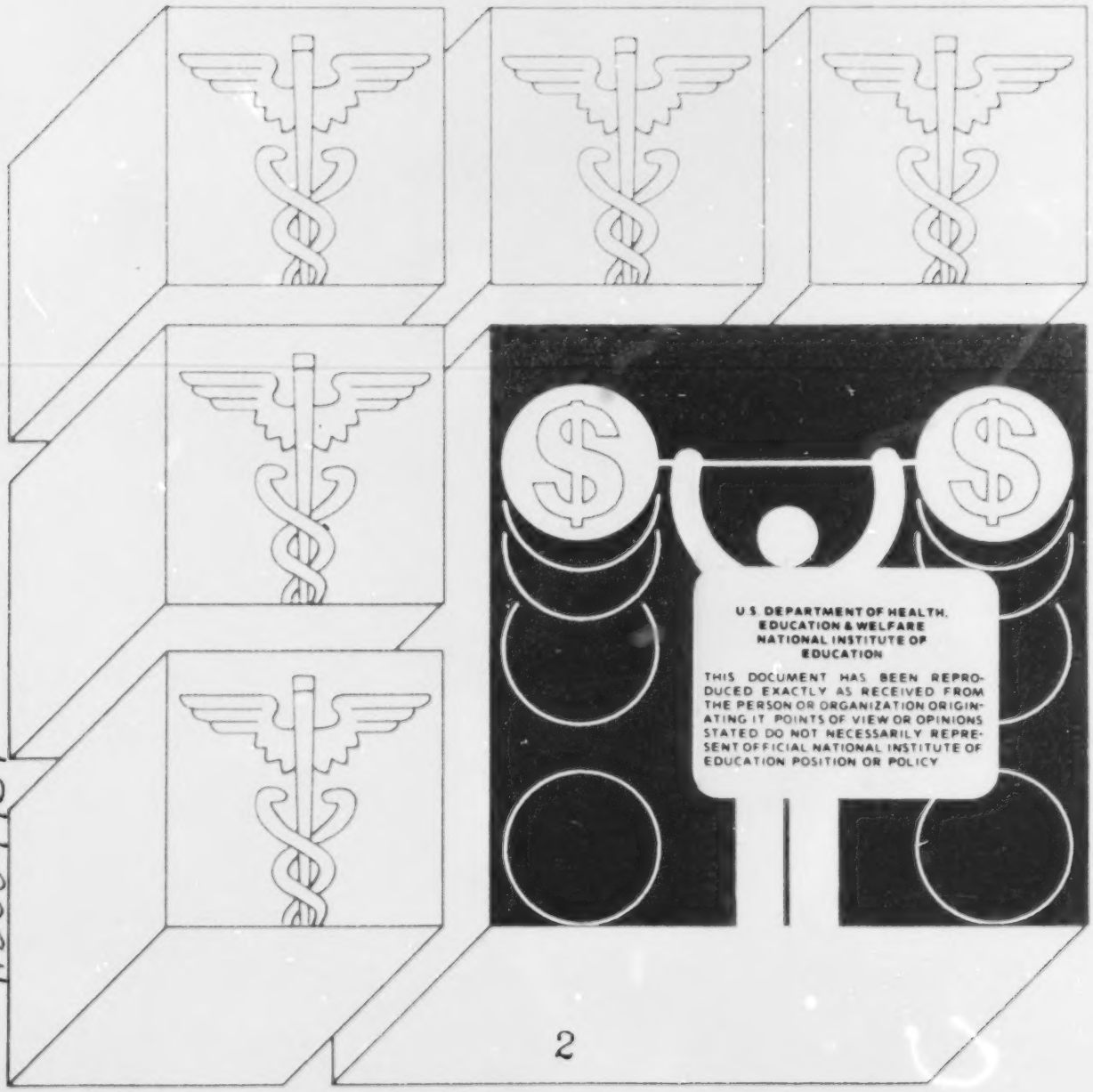
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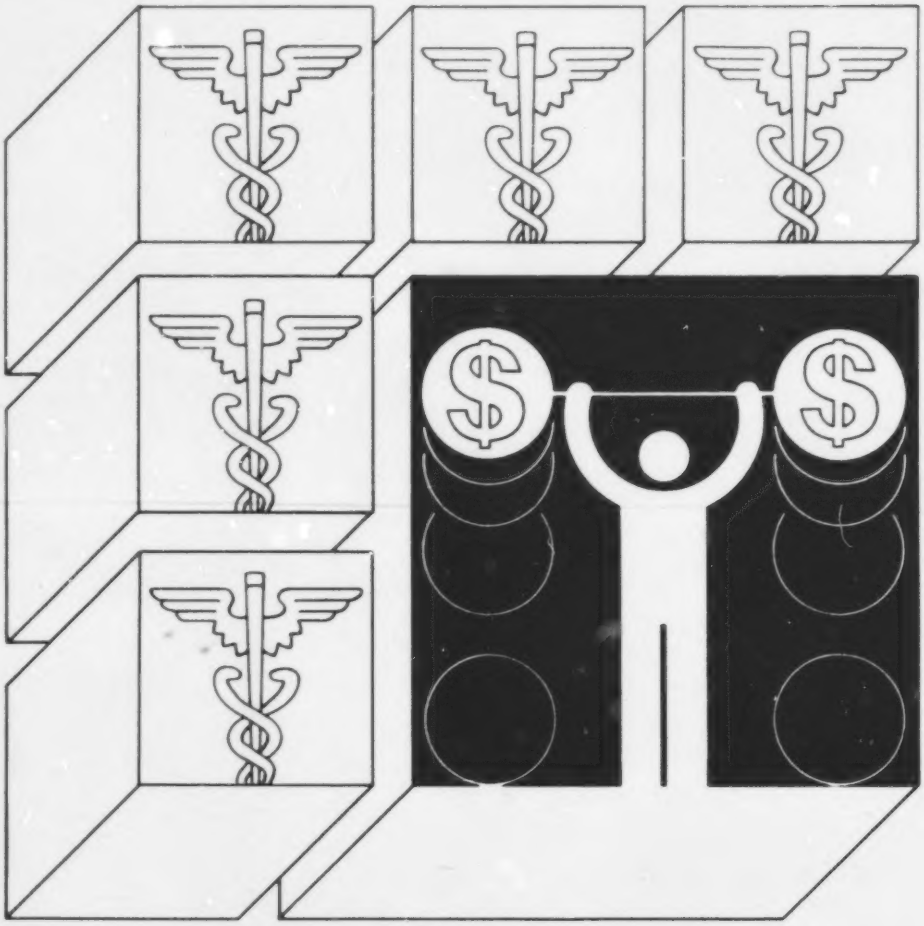

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Richard E. Mantovani

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EXECUTIVE SUMMARY

This is the third in a series of reports based on survey data collected by the Association of American Medical Colleges in the spring of 1975 to find out how medical students financed their education during the 1974-75 academic year.

Purpose

The purpose of this report is to provide information which will aid both the federal government and the medical schools in planning future medical student financing. Specific questions which are addressed include the following:

(1) Which students express a need for financial aid?

(2) Do the neediest students receive financial aid?

(3) To what extent do students intending to serve in primary care specialties and in physician shortage areas receive financial aid?

(4) What is the role of (a) medical schools, (b) federal and state governments, (c) private foundations and lending institutions, and (d) the students and their parents in supplying the income needed to meet student expenses?

(5) Which types of income (e.g., loans, scholarships, family contributions, etc.) are most important in financing medical students?

Methodology

The data base used in this study was derived from a representative national sample of 7,261 anonymous questionnaires, which included 15 percent of the total enrollment at each of the 110 medical schools participating in the survey.

Comparisons are made for three major groups of students: (1) those who did not apply for aid, (2) those who applied for but did

not receive aid, and (3) those who applied for and received aid. The above groups are then analyzed by (1) their demographic and background characteristics, and (2) the amount of income received from funds such as scholarships, loans, contributions from parents and relatives, and student earnings and savings.

Major Findings

The major findings of the study, as they address the study's questions, are as follows:

1. Approximately two-thirds (66.4 percent) of the medical students sampled applied for aid during the 1974-75 academic year. These aid applicants tended to be (a) from lower-income backgrounds, (b) from underrepresented minorities, (c) from rural hometowns, or (d) married with children.

2. Of the students who applied for aid, 33.2 percent applied to their medical schools only, 19.3 percent applied only to sources other than their medical schools, and 47.4 percent applied to both medical school and other sources. Those students described as male, white, married with no children, or from higher-income backgrounds were more apt than other students to apply only to non-medical-school sources.

3. Almost all students (92.3 percent) who applied for aid during 1974-75 received at least some financial assistance.

4. Students interested in primary care and/or physician shortage area service did not experience any more success in obtaining aid than did those with other career plans. Over 90 percent of applicants in all of these career plan categories received financial aid.

5. Personal sources of income (such as student earnings and savings, spouse's earnings, and contributions from parents and other relatives) accounted for 63.4 percent of medical student income in 1974-75. For those students not applying for aid, parents and relatives were especially significant sources of income; while for students who applied for but did not receive aid, income from

earnings, savings, and spouse was particularly important.

6. Almost half (46.2 percent) of medical students received no income from their parents during 1974-75 and thus might be considered "financially emancipated." Less than 10 percent received more than four-fifths of their income from parents. Of that group, less than 9 percent applied for and less than 7 percent received financial aid.

7. For 64.7 percent of students receiving financial aid from institutional sources, the federal government and banks (each providing a median of approximately 30 percent of student income) were the most substantial providers, followed by medical schools (19 percent), foundations (18 percent) and state governments (15 percent).

8. Loans provided 37.6 percent of the income of those medical students receiving aid, while scholarships supplied 25.6 percent of this income.

Conclusions

Most medical students were found to be financially dependent on a number of funding sources. In most instances, however, one or two sources--usually parents, spouses, loans or scholarships--supplied a major proportion of the student's income.

Students not receiving funds from loans or scholarships depended to a greater extent on parents or spouses, as well as on their own earnings and savings.

If the amount of assistance from loans and scholarships decreases in the future, many students who cannot call upon their parents for support may face financial hardships in completing their medical education.

I. INTRODUCTION

During the 1974-75 academic year, the Association of American Medical Colleges (AAMC) conducted a survey of U.S. medical students in order to find out how they were financing their education. In addition to data on various aspects of medical student finances, the survey also collected information on the demographic and background characteristics of students and on their career plans. The first report to be produced from this data was entitled "Survey of How Medical Students Finance Their Education, 1974-75."* That summary report was an update of three previous studies on medical student finances conducted in the 1963-64, 1967-68, and 1970-71 academic years.†

A second report, entitled "Medical Student Indebtedness and Career Plans, 1974-75,"‡ was produced in September 1976. This second report, although directly addressing the relationship between student indebtedness and career choice, sought in a broader sense to provide information which would aid both the federal government and the medical schools in (1) planning future student financing, and (2) effecting goals for a more heterogenous medical student and physician population.

This report, the third in the series, continues to pursue the above purposes by addressing the following questions:

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* Association of American Medical Colleges, Survey of How Medical Students Finance Their Education, 1974-75 (Washington, D.C.: Association of American Medical Colleges, 1975).

† U.S. Department of Health, Education, and Welfare, Public Health Service, How Medical Students Finance Their Education, PHS Publication No. 1336 (Washington, D.C.: U.S. Government Printing Office, 1965).

† U.S. Department of Health, Education, and Welfare, Public Health Service, How Medical Students Finance Their Education, PHS Publication No. 1336-1 (Washington, D.C.: U.S. Government Printing Office, 1970).

† U.S. Department of Health, Education, and Welfare, Public Health Service, How Medical Students Finance Their Education, DHEW Publication No. 75-13 (Washington, D.C.: U.S. Government Printing Office, 1974).

‡ R. E. Mantovani, T. L. Gordon, and D. G. Johnson. Medical Student Indebtedness and Career Plans, 1974-75. (Report prepared by the Association of American Medical Colleges for DHEW, Health Resources Administration, Bureau of Health Manpower, 1976.)

1. Which students express a need for financial aid?

2. Do the neediest students receive such aid?

3. To what extent do students intending to serve in primary care specialties and in physician shortage areas receive such aid?

4. What is the role of the medical schools, federal and state governments, private foundations and lending institutions, and the student and his/her parents in supplying income needed to meet expenses?

5. Which types of aid (e.g., loans, scholarships, family contributions, etc.) are the most important in financing medical students?

These questions are addressed by examining (1) factors related to the application for and the receipt of financial aid, and (2) the major sources of student income and how this income is used to meet expenses. This framework allows us to analyze the important items of information not addressed in the two preceding studies, as well as to provide more detailed analyses relative to the financial behavior of students. The next part of this report presents details on the collection and quality of the data and on the methodology employed to analyze this data. Part III contains the results and discussion. Section A of Part III focuses on factors related to the application for and receipt of financial aid. In section B, the comparative financial situations of medical students are reported. The focus in this section is on the dependence of students on certain alternative sources of income such as scholarships, loans, parental contributions, and student earnings and savings. Part IV presents a summary of the results and conclusions from this study.

This report was prepared by Richard E. Mantovani, Research Associate, with the assistance of Davis G. Johnson, Ph.D., Director of the Division of Student Studies.

II. METHODOLOGY

A. Data Sources

Data for this study were collected in the Survey of How Medical Students Finance Their Education, conducted by the Association of American Medical Colleges (AAMC) in the spring of 1975. A total of 23,233 questionnaires were distributed to a representative and anonymous sample of the 53,554 students enrolled in U.S. medical schools during the 1974-75 academic year. Of these, 11,552 questionnaires (49.7 percent) were returned by students from 110 schools.* A subsample of 7,261 students--approximately 15 percent from each school--was selected for this study. For this "national" sample, Appendix A gives the number of students selected from each of the participating schools.

The information collected in this survey included the demographic and background characteristics of medical students, the amount and sources of income, indebtedness, employment, and career plans. (See Appendix B.)

In order to assess the accuracy of students' responses to the financial aid questions, a subsample of 417 students was monitored by school officials using financial aid records. (See Appendix A for the number of monitored and non-monitored students from each school.) The verified responses of the monitored subsample were statistically compared with the unverified responses of non-monitored students. This procedure yielded information on the reliability of the data for the total of 7,261 students in the national sample. The results of this comparison are given in the appendix of the 1975 BHM report, "How Medical Students Finance Their Education, 1974-75."

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* For various reasons, the following U.S. medical schools did not participate in the survey: Harvard Medical School, State University of New York at Stony Brook School of Medicine, University of Utah College of Medicine, Vanderbilt University School of Medicine, University of Vermont College of Medicine, and Yale University School of Medicine. Fortunately, these schools are from various regions of the country and include both public and private institutions.

B. Method of Analysis

This study is organized into two parts: the first identifies factors that might be related to medical student application for and receipt of financial aid. The second compares the financial situations of medical students during 1974-75, the period for which the financial aid was received.

In both parts, analysis focuses on three groups of students: (1) those who did not apply for financial aid, (2) those who applied for but did not receive financial aid, and (3) those who received financial aid. The following discussion explains how these groups were identified and how the information about the groups was used to answer the study questions.

1. Factors Related to the Application for and Receipt of Financial Aid

The primary aims of this section are to identify (a) students who apply for and receive aid, and (b) the primary sources through which they apply. From the data base, financial aid applicants are identified by positive responses to one or both of the questions comprising item 16 of the questionnaire: "Did you apply for financial aid for the current school year via your medical school?" and "Did you apply for financial aid via other sources?" These questions also supply information on where students apply for aid. For example, students could indicate that they applied to (1) both medical schools and other sources, (2) only to medical schools, or (3) only to the other sources.

Financial aid recipients are those students identified as financial aid applicants who reported receiving financial assistance from any of the sources specified in questionnaire items 25-42. Since the focus of this section is not on the receipt of financial aid, per se, but on the success of those applying for such aid during the 1974-75 academic year, students receiving aid but not applying for aid are treated as "no response" in this context. Thus, the analyses in this section involve 6,625 (vs. 7,261) students. It appears that the 636 students who are excluded from the analyses were either receiving financial aid from a source not requiring application in the 1974-75 academic year, or were confused as to what represents aid. The factors analyzed in this section are listed and explained below:

a. *Class* - Students were grouped by whether they were in their first, intermediate, or final years (derived from item 4 of the questionnaire).

b. *Demographic Characteristics* - These include gender (item 6), ethnicity (item 10), marital status and number of dependents (items 7 and 8), size of hometown (item 15), and age (item 5).

c. *Financial Conditions Prior to 1974-75* - Two indicators of the financial conditions of students prior to 1974-75 are used. The first is parental income (item 4), a measure of the gross parental income during 1974. The second, debt prior to the 1974-75 academic year, is calculated by subtracting debt incurred during the 1974-75 year (items 35-42 and 45 on the questionnaire) from current indebtedness as of June 30, 1975 (item 57).

d. *Career Plans* - Those aspects of career plans to be addressed are interest in primary care specialties (item 64) and in physician shortage area practice (item 67).

2. Comparison of the Financial Situations of Students

In this section a comparison is made between those students receiving income from scholarships (or other non-repayable funds) or loans and those students not receiving income from such sources. In addition, students receiving and not receiving aid are compared. Since the focus of this section is not on application for aid but rather on the amount of income received, all those students receiving aid (including the 636 not applying in the current year) are examined. Thus, the sample for this analysis is 7,261.

For each of these groups of students, the proportion of each student's total income received from a certain source is calculated and used to assess the importance of the source. The following major sources were examined in this context:

a. *Personal Sources of Aid*

(1) Student's Own Resources

This source includes student earnings, spouses' contributions, and other funds such as savings,

dividends from stocks and bonds, and other miscellaneous sources. In other words, these are the sources which are most highly accessible to the student and which give some indication of his independence from parents or institutional sources of aid.

(2) *Familial Resources*

These sources reflect the relative contribution of parents and other relatives (including in-laws) to student income. These resources exclude income from spouses as well as earnings, savings, and funds considered under student's own resources. The comparison of the familial resources of the student to his own resources indicates the degree to which the student can be considered dependent or independent.

b. *Institutional Sources and Types of Aid*

This includes loans and scholarships as indicated in questionnaire items 25-42 and 45. These sources are examined along two dimensions: source of aid and type of aid. Source of aid refers to the agent distributing funds either directly to medical students (as with Public Health Service Scholarships) or to the medical school for further distribution (as with the Federal Health Professions Student Loans). The major sources examined are medical schools, federal government, state governments, foundations, and banks. A second dimension is type of aid, which refers to whether the funds are in the form of scholarships, guaranteed loans, or non-guaranteed loans. Exhibit A indicates how the specific questionnaire items were classified for this analysis.

C. Statistical Analysis

For a detailed presentation of the statistical techniques employed in this study, the reader should consult those sources appearing in the "statistical" section of the list of references.

In order to determine the significance of findings in this study, a number of statistical tests were employed. These tests

Exhibit A

Classification of Financial Aid by Source and Type of Aid

Reported on Survey of How Medical Students Finance Their Education, 1974-75

Questionnaire Item	Name of Aid Program	Source of Aid - Type of Aid		Administrator of Aid*
25	Federal Health Professions Scholarship	Federal	Scholarship/Non-Repayable	School
26	Robert Wood Johnson Scholarship	Foundation	Scholarship/Non-Repayable	School
27	Grant(s) from school funds (including tuition remission or waiver)	School	Scholarship/Non-Repayable	School
28	Veteran's Benefits	Federal	Scholarship/Non-Repayable	Other
29	Public Health Service Scholarship	Federal	Scholarship/Non-Repayable	Other
30	Physician Shortage Area Scholarship	Federal	Scholarship/Non-Repayable	Other
31	Armed Forces Health Professions Scholarship Program	Federal	Scholarship/Non-Repayable	Other
32	NIH-supported research fellowship or traineeship, research grant, clinical fellowship, etc.	Federal	Scholarship/Non-Repayable	Other
33	State/State Medical Society Scholarship	State §	Scholarship/Non-Repayable	Usually Other
34 †	National Medical Fellowships	Foundation	Scholarship/Non-Repayable	Other
35	Federal Health Professions Student Loans	Federal	Loans (Not Guaranteed)	School
36	National Direct Student Loan/ National Defense Education Student Loan	Federal	Loans (Not Guaranteed)	School
37	Guaranteed school loan (where school is authorized lender)	School	Loans (Guaranteed)	School
38	School loan (not guaranteed by state or federal government)	School	Loans (Not Guaranteed)	School
39	Robert Wood Johnson Loan	Foundation	Loans (Not Guaranteed)	School
40	Private bank loan (not guaranteed by state or federal government)	Bank	Loans (Not Guaranteed)	Other
41	Guaranteed (insured) student bank loan	Bank	Loans (Guaranteed)	Other
42	American Medical Association Education and Research Foundation (AMA-ERF) loan	Foundation	Loans (Not Guaranteed)	Other
45	Other (state)	State	Loans (Not Guaranteed)	Usually Other

* School = Medical School; Other = Other than medical school

† National Medical Fellowships were separated from other responses to this item.

§ These were classified as state because of the small financial role played by state medical society scholarships.

estimate the probability that a distribution or a difference observed in the data occurs by chance.

Chi-square (χ^2) statistics, which are given in Appendix C, make possible an estimation of this chance occurrence in cross-tabulated data. For example, to obtain the χ^2 value for the relationship between class year and application for aid (Table 2), Appendix C should be consulted. Columns 1 and 2 of Appendix C give the table number and student characteristic of interest. The χ^2 which was calculated from the data is located in column 3 ($\chi^2 = 4.06$).

This value is compared to the χ^2 value in column 4 ($\chi^2_{.05} = 5.99$) to decide whether the relationship is significant. In a significant relationship, χ^2 will be greater than $\chi^2_{.05}$ at df degrees of freedom. For our example cited above, χ^2 is less than $\chi^2_{.05}$, which indicates that there was no statistically significant relationship between class year and application for financial aid. This result is given in column 6 of the Appendix Table.

D. Limitations of Study

Inferences drawn from this study, as in all studies, are limited by the type of sample drawn, the measures used, and the number and type of returns received. The following limitations of this study should be emphasized:

1. Comparisons of the data in the national sample with the total population of medical students in 1974-75 reveal that certain groups are slightly over or underrepresented. In particular, women and blacks tended to be underrepresented, while men, white/Caucasians and students classifying themselves as other than "black" or "white" tended to be overrepresented. In addition, students in their first year of medical school tended to be overrepresented while those in their intermediate years tended to be underrepresented.*

2. A second limitation involves the use of this data to represent the current or future financial situation of medical

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* Further information on these statistical comparisons appear in "How Medical Students Finance Their Education, 1974-75."

students. Since 1974-75, the academic year covered by the survey, there have been sizeable increases in tuition and in other costs of obtaining an M.D. degree. In addition, financial aid available to students has been decreasing. These changes can be assumed to have had an effect on both student expenses and income.*

3. Unless medical student financing improves, it is also possible that self-selection and/or admissions decisions will result in significant changes in the characteristics of enrolled students. Specifically, future medical student populations might come (to an even greater extent than during 1974-75) from white, high-income, urban backgrounds.

4. In examining application for and receipt of aid, the report does not give information on the amount for which students applied, only how much they received. Thus, it is possible that many students did not receive the amount of aid requested, although some aid was still received.

5. The analysis of medical students' financial situations aims at exploring the role of certain funds in supplying income to the student. The measure of this role is:

$$\frac{\text{Income Received From Specific Funding Sources}}{\text{Total Income of Student}}$$

Thus, a student who earns $500 out of an income totaling $3,000 receives one-sixth of his total income from this source, as does a student earning $1,500 out of a total income of $9,000. Although in each case earnings plays the same role in supplying the student with funds, the absolute dollar amounts differ, and in this case is significant in describing the student's financial situation. This proportional approach is limited in not being able to give a full picture of a student's financial situation.

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* A recent study addressing these issues is "The Role of Aid to Medical, Osteopathic and Dental Students in a New Health Manpower Education Policy," A Staff Working Paper of August 1976 Prepared by the Congressional Budget Office (Washington, D.C.: U.S. Government Printing Office, 1976).

6. The analysis does not include a detailed study of the relationship between personal characteristics of students and their dependence on certain types of funds. If this analysis were attempted, it might demonstrate that students from low-income backgrounds are less dependent on their spouse's or their own earnings than are students from high-income backgrounds.

All of the above limitations should be kept in mind when interpreting the results that are presented and discussed in the following section of this report.

III. RESULTS AND DISCUSSION

A. Factors Related to Medical Student Application for and Receipt of Financial Aid

As was indicated in the second study in this series,* indebtedness is a widespread phenomenon which not only affects students from lower-income backgrounds but also students from middle-income families. A major factor leading to this widespread condition is the increasing cost of a medical education --a development which has led many students to request financial assistance. Since costs are expected to increase further, the number of students applying for aid is also expected to rise. If this situation occurs and if the available financial aid remains constant or decreases, students without substantial financial backing might be forced to discontinue or interrupt their medical education. Thus, a medical education might be limited to students from affluent backgrounds.

This section of the study provides a basis for assessing the impact of rising educational costs on medical students by examining which students applied for aid and which were most successful in obtaining aid. The first subsection examines differences between those students who applied for aid and those who did not.

1. Factors Related to Application for Aid

For the academic year 1974-75, approximately two-thirds (66.4 percent) of the medical students in our sample applied for financial financial aid through their medical schools or through other funding institutions such as banks, federal- or state-administered aid programs, or foundations.† As Table 1 shows, almost a third (31.5 percent) of the students applied both via their medical schools and via other sources. Slightly over a third (34.9 percent) applied through only one of these major

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* See Mantovani, Gordon, and Johnson, 1976, p. 2

† These students exclude 636 students (8.8 percent) who received financial aid but did not indicate applying for such aid during the 1974-75 academic year.

Table 1

Number and Proportion of Medical Students Applying for Financial Aid by Source of Aid, 1974-75

Source of Aid (1)	Number (2)	Percent of All Students (3)	Percent of Students Applying to Known Sources (4)
Total*	6,625	100.0	--
Did Not Apply for Aid	2,227	33.6	--
Source Specified	4,398	66.4	100.0
Medical School Only	1,462	22.1	33.2
Other Sources Only	851	12.8	19.3
Both Medical School and Other Sources	2,085	31.5	47.4

* This total excludes 636 or 8.8% of the 7,261 students sampled. These 636 students received aid from scholarships or loans but did not indicate applying for such aid in the 1974-75 academic year.

channels (22.1 percent to medical schools and 12.8 percent to other sources). The remaining one-third (33.6 percent) did not apply for aid.*

As indicated in Table 2, the percentage of students applying for aid increased slightly with class level, but the differences were statistically insignificant. However, when the source of aid is considered, the data indicate that class year was a weak (although statistically significant) factor in determining where a student applied for aid. Students in their first year applied to both their medical school and to outside sources to a greater

* When limited to those who applied for aid, column 4 indicates that almost half applied to both medical schools and other sources.

students than did students in other years. Students in their final year, however, were more likely to apply either to medical schools or to other funding institutions (but not to both) than were students in other classes. This may indicate that students enrolled in the first few years of medical school are not as familiar with the various kinds of aid available and the qualifications for receiving aid; therefore, they tended to disperse their efforts among several sources of aid. On the other hand, students in their final year may have developed reliable sources of funding and thus did not need to apply as widely.

Table 2

Number And Proportion of Medical Students Applying for Aid by Class And by Source of Aid, 1974-75

CLASS YEAR	TOTAL STUDENTS*	STUDENTS NOT APPLYING FOR FINANCIAL AID		APPLICANTS FOR FINANCIAL AID							
				TOTAL APPLICANTS		APPLIED TO BOTH MEDICAL SCHOOLS AND OTHER SOURCES		APPLIED TO MEDICAL SCHOOLS ONLY		APPLIED ONLY TO NON-MEDICAL SCHOOL SOURCES	
(1)	(2)	No. (3)	% (4)	No. (5)	% (6)	No. (7)	% (8)	No. (9)	% (10)	No. (11)	% (12)
All Students	6308	2142	34.0	4166	66.0	1977	47.5	1387	33.3	802	19.3
First Year	2075	670	32.3	1405	67.7	732	52.1	450	32.0	223	15.9
Intermediate Year	2871	993	34.6	1878	65.4	864	46.0	636	33.9	378	20.1
Final Year	1362	479	35.2	883	64.8	381	43.1	301	34.1	201	22.8

* This total excludes 636 or 8.8 percent of the 7,261 students sampled. These 636 students received aid from scholarships or loans but did not indicate applying for such aid in the 1974-75 academic year. Also excluded are students not indicating their class year.

In Table 3, demographic characteristics of medical students (such as gender, race, marital status, size of hometown, and age) are investigated as factors related to the application for aid. The following observations were drawn from the data:

1. The relative number of men and women applying for aid did not vary significantly. However, men and women differed in the source to which they applied. In particular, men applied to sources other than medical schools to a greater extent than did women, while proportionately more women applied to both medical schools and other sources.

2. Underrepresented minorities applied for aid to a far greater extent than did other ethnic groups. Whereas more students from such minorities applied to both medical schools and other sources, more white students tended to apply only to other sources.

3. Married students with children applied for aid to a greater extent than did either single students or students who were married with no children. However, married students with children were similar to single students in that approximately half of the students in both groups applied to both medical school and non-medical-school sources. A relatively high proportion of married students with no children applied to sources other than medical schools.

4. Proportionately more rural students and older students applied for aid than did those from larger hometowns or of a younger age. Neither of these characteristics, however, was important in explaining where a student applied for aid.

Two conclusions can be drawn from the above observations about the relationships between demographic characteristics and application for financial aid. First, students who applied for aid had characteristics that are generally associated with lesser financial resources or with greater personal expenses (such as those associated with supporting a family). Second, there seemed to be an association between a student's personal characteristics and the institutions to which he applied for aid. Students who were female, from underrepresented minorities,

Table 3

Number and Proportion of Medical Students Applying for Aid by Selected Demographic Characteristics and by Source of Aid, 1974-75

DEMOGRAPHIC CHARACTERISTICS	TOTAL STUDENTS*	STUDENTS NOT APPLYING FOR FINANCIAL AID		APPLICANTS FOR FINANCIAL AID							
				TOTAL APPLICANTS		APPLIED TO BOTH MEDICAL SCHOOLS AND OTHER SOURCES		APPLIED TO MEDICAL SCHOOLS ONLY		APPLIED ONLY TO NON-MEDICAL SCHOOL SOURCES	
(1)	(2)	No. (3)	% (4)	No. (5)	% (6)	No. (7)	% (8)	No. (9)	% (10)	No. (11)	% (12)
ALL STUDENTS	6625	2227	33.6	4398	66.4	2085	33.2	1462	19.3	851	47.4
SEX:											
Male	5424	1850	34.1	3574	65.9	1631	45.6	1197	33.5	746	20.9
Female	1173	366	31.2	807	68.8	446	55.3	262	32.5	99	12.3
ETHNICITY:											
White	5863	2096	35.7	3767	64.3	1719	45.6	1263	33.5	785	20.8
Underrepresented Minorities	376	16	4.3	360	95.7	235	65.3	88	24.4	37	10.3
Other Minorities	386	115	29.8	271	70.2	131	48.3	111	41.0	29	10.7
MARITAL STATUS:											
Single	4204	1418	33.7	2786	66.3	1403	50.4	923	33.1	460	16.5
Married - No Children	1853	699	37.7	1154	62.3	471	40.8	392	34.0	291	25.2
Married - Children	568	110	19.4	458	80.6	211	46.1	147	32.1	100	21.8
SIZE OF HOMETOWN:											
Large Urban	2958	1033	34.9	1925	65.1	952	49.5	630	32.7	343	17.8
Medium or Small Urban	2413	862	35.7	1551	64.3	702	45.3	533	34.4	316	20.3
Rural or Small Town	1239	326	26.3	913	73.7	429	47.0	295	32.3	189	20.7
AGE:											
25 years or less	5056	1801	35.6	3255	64.4	1556	47.8	1073	33.0	626	19.2
26-30 years	1311	369	28.1	942	71.9	429	45.5	324	34.4	189	20.1
31 or more years	222	46	20.7	176	79.3	87	49.4	60	34.1	29	16.5

* This total excludes 636 or 8.8 percent of the 7,261 students sampled. These 636 students received aid from scholarships or loans but did not indicate applying for such aid in the 1974-75 academic year. Since the number of no responses varies among the characteristics given in column 1, the total for each characteristic may not add to the total for "All Students."

or who were either single or married with children tended to apply both to the medical school and to other funding institutions to a greater extent than did other students. On the other hand, students who were non-minority whites, male, or married with no children, applied relatively more to sources other than medical schools. It is possible that some of these students knew they could not meet the need criteria used by their medical schools and thus applied to other funding sources.

Some of the above distinctions reflect economic differences between students. Table 4 reports on two variables that relate to these differences: level of parental income and student's previous indebtedness. As would be expected, the proportion of students applying for aid decreased as the level of parental income increased. The disparity between the two most extreme parental income levels is most evident, with 93 percent of the poorest group and 22 percent of the wealthiest group applying for aid.

Parental income was also important in describing the channels through which a student applied for aid. Those students from backgrounds where parental income was less than $30,000 applied to both medical schools and other sources to a greater extent than did students from wealthier families. In contrast, relatively more students with parental incomes over $30,000 applied only to sources other than medical schools.

Table 4 also gives information on the relationship between the debts incurred by medical students prior to the 1974-75 academic year and their application for aid. The data indicate that approximately one-half of the students with previous debts of less than $2,500 applied for aid, whereas over 80 percent of those with greater debts applied. These percentages confirm a not unexpected positive relationship between debt and application for aid.

In summary, the factor most related to applications for aid was the financial situation of the student's parents, with ethnicity and marital status also acting as contributing factors. An equally important finding relates to the different patterns used by students in applying for aid. In particular, the evidence

Table 4

Number and Proportion of Medical Students Applying for Aid by Their Financial Conditions Prior to the 1974-75 Academic Year and by Source of Aid, 1974-75

FINANCIAL CONDITIONS PRIOR TO 1974-75 ACADEMIC YEAR	TOTAL STUDENTS*	STUDENTS NOT APPLYING FOR FINANCIAL AID		APPLICANTS FOR FINANCIAL AID							
				TOTAL APPLICANTS		APPLIED TO BOTH MEDICAL SCHOOLS AND OTHER SOURCES		APPLIED TO MEDICAL SCHOOLS ONLY		APPLIED ONLY TO NON-MEDICAL SCHOOL SOURCES	
(1)	(2)	No. (3)	% (4)	No. (5)	% (6)	No. (7)	% (8)	No. (9)	% (10)	No. (11)	% (12)
ALL STUDENTS	6625	2227	33.6	4398	66.4	2085	33.2	1462	19.3	851	47.4
PARENTAL INCOME:											
Less than $5,000	386	28	7.3	358	92.7	195	54.5	124	34.6	39	10.9
$5,000-9,000	665	74	11.1	591	88.9	313	53.0	210	35.5	68	11.5
$10,000-19,999	2159	424	19.6	1735	80.4	883	50.9	574	33.1	278	16.0
$20,000-29,999	1401	436	31.1	965	68.9	432	44.8	336	34.8	197	20.4
$30,000-49,999	969	522	53.9	447	46.1	162	36.2	127	28.4	158	35.3
$50,000 or more	859	669	77.9	190	22.1	52	27.4	46	24.2	92	48.4
PREVIOUS DEBT:											
Less than $2,500	3806	1833	48.2	1973	51.8	816	41.4	694	35.2	463	23.5
$2,500-4,999	1143	161	14.1	982	85.9	487	49.6	335	34.1	160	16.3
$5,000-7,499	745	106	14.2	639	85.8	346	54.1	201	31.5	92	14.4
$7,500-9,999	397	27	6.8	370	93.2	197	53.2	111	28.0	62	16.8
$10,000 or more	534	100	18.7	434	81.3	239	55.1	121	27.9	74	17.0

* This total excludes 636 or 8.8 percent of the 7,261 students sampled. These 636 students received aid from scholarships or loans but did not indicate applying for such aid in the 1974-75 academic year. Since the number of no responses varies among the characteristics given in column 1, the total for each characteristic may not add to the total for "All Students."

indicates differences between those who applied to both medical schools and other sources and those who applied only to other sources. These differences perhaps reflect the variation in the ability of students to meet the criteria of the alternative funding institutions.

2. Factors Related to the Receipt of Financial Aid

In the last section, the primary focus was on identifying which students applied for aid. In this section, answers are sought to the following questions: (a) do the neediest students receive aid, and (b) to what extent do students intending to serve in primary care and in physician shortage areas receive aid?

As shown in Table 5, nine out of every ten students who applied for aid during 1974-75 received aid. It should be noted, however, that for many of these students,

Table 5

Number and Proportion of Medical Students Receiving Aid by Class

And by Source of Aid, 1974-75

CLASS YEAR	TOTAL RECIPIENTS		RECIPIENTS WHO APPLIED TO BOTH SOURCES		RECIPIENTS WHO APPLIED ONLY TO MEDICAL SCHOOLS		RECIPIENTS WHO APPLIED ONLY TO NON-MEDICAL SCHOOL SOURCES	
	No.	% of Applicants	No.	% of Applicants	No.	% of Applicants	No.	% of Applicants
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
TOTAL	3847	92.3	1930	97.6	1239	89.3	678	84.5
FIRST YEAR	1270	90.4	710	97.0	380	84.4	180	80.7
INTERMEDIATE YEARS	1754	93.4	844	97.7	581	91.4	329	87.0
FINAL YEAR	823	93.2	376	98.7	278	92.4	169	84.1

the amount of assistance received was less than the amount requested. Students who applied to both medical schools and other sources were most successful (97.6 percent received aid), while students applying solely to other sources were the least successful (84.5 percent received aid).

In the previous section, class year was found to have little relevance to application for aid. Table 5 indicates that overall differences between classes in obtaining aid were also small, although statistically significant. Generally, the data show that first-year students experienced less success in obtaining aid than students further along in their education. This difference between first- and final-year students was most apparent for those students applying only to medical schools. Although significant, the importance of this difference was reduced by the fact that at least 84 percent of aid applicants in all class levels were successful in obtaining aid.

Table 6 presents data on receipt of aid in relation to the following demographic characteristics: gender, ethnicity, marital status, size of hometown, and age. Three of these variables--gender, marital status, and size of hometown--were not related to success in obtaining aid. The following are observations on the other two variables:

1. Students from underrepresented minority groups were more successful than students from other ethnic groups in obtaining aid. This difference was statistically significant only for those students applying solely to medical schools.

2. Success in obtaining aid varied significantly among age categories for (a) all financial aid applicants, and (b) those applying only to medical schools. In both of these cases, students who were 26 to 30 years of age experienced the greatest relative success in obtaining aid.

Both of the above findings, although statistically significant, are somewhat reduced in importance by the

Table 6

Number and Proportion of Medical Students Receiving Aid

By Selected Demographic Characteristics and by Source of Aid, 1974-75

DEMOGRAPHIC CHARACTERISTICS	TOTAL RECIPIENTS		RECIPIENTS WHO APPLIED TO BOTH SOURCES		RECIPIENTS WHO APPLIED ONLY TO MEDICAL SCHOOLS		RECIPIENTS WHO APPLIED ONLY TO NON-MEDICAL SCHOOL SOURCES	
	No.	% of Applicants	No.	% of Applicants	No.	% of Applicants	No.	% of Applicants
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ALL STUDENTS*	4059	92.3	2032	97.5	1306	89.3	721	84.7
SEX:								
Male	3291	92.1	1586	97.2	1072	89.6	633	84.9
Female	754	93.4	439	98.4	231	88.2	84	84.8
ETHNICITY:								
White	3452	91.6	1671	97.2	1119	88.6	662	84.3
Underrepresented Minorities	352	97.8	232	98.7	85	96.6	35	94.6
Other Minorities	255	94.1	129	98.5	102	91.9	24	82.8
MARITAL STATUS:								
Single	2576	92.5	1363	97.1	822	89.1	391	85.0
Married - No Children	1051	91.1	463	98.3	346	88.3	242	83.2
Married - Children	432	94.3	206	97.6	138	93.9	88	88.0
SIZE OF HOMETOWN:								
Large Urban	1788	92.9	929	97.6	560	88.9	299	87.2
Medium or Small Urban	1428	92.1	682	97.2	480	90.1	266	84.2
Rural or Small Town	836	91.6	419	97.7	263	89.2	154	81.5
AGE:								
25 years or less	2985	91.7	1513	97.2	943	87.9	529	84.5
26-30 years	888	94.3	420	97.9	305	94.1	163	86.2
31 or more years	163	92.6	86	98.9	53	88.3	24	82.8

* Since the number of no responses varies among the characteristics given in column 1, the total for a particular characteristic may not add to the total for "All Students."

high overall success of all students in obtaining aid.

Table 7 gives information on the relationship of both parental income and student indebtedness to the receipt of aid. It might be expected that students from low-income backgrounds and with higher levels of debt would be more successful in obtaining aid. As indicated in column 1, success in obtaining aid was associated with lower levels of parental income. Although success in obtaining aid was higher for those with debts, such success was not positively associated with the amount of debt. Rather, the percent of students receiving aid was least for those students in the highest and lowest debt categories.

When students are separated by the source to which they applied, it was found that parental income and success in obtaining aid were inversely associated for students who applied solely to either medical schools or to sources other than their medical schools. A less obvious negative association was found between parental income and success in obtaining aid for those students applying to both medical schools and other sources. With respect to debt, students with debts of less than $2,500 experienced the least success in obtaining aid when they applied only to medical schools. Students with large debts (of $7,500 or more) were relatively less successful than lower-debt students when they applied only to other sources.

When only those students applying to non-medical school sources are considered, prior debt is inversely related to success in obtaining aid. In this case, students with the highest debts experienced the least success in obtaining aid. This might be due to (1) the use of criteria other than financial need in awarding such aid, or (2) the concern of financial aid sources other than schools over the ability of those with large debts to assume responsibility for further debts.

Another of the questions addressed by this study relates to the extent to which students interested in primary care specialization or in physician shortage

Table 7

Number and Proportion of Medical Students Receiving Aid by Source of Aid

And Their Financial Conditions Prior to the 1974-75 Academic Year

FINANCIAL CONDITIONS PRIOR TO 1974-75 ACADEMIC YEAR (1)	TOTAL RECIPIENTS No. (2)	TOTAL RECIPIENTS % of Applicants (3)	RECIPIENTS WHO APPLIED TO BOTH SOURCES No. (4)	RECIPIENTS WHO APPLIED TO BOTH SOURCES % of Applicants (5)	RECIPIENTS WHO APPLIED ONLY TO MEDICAL SCHOOLS No. (6)	RECIPIENTS WHO APPLIED ONLY TO MEDICAL SCHOOLS % of Applicants (7)	RECIPIENTS WHO APPLIED ONLY TO NON-MEDICAL SCHOOL SOURCES No. (8)	RECIPIENTS WHO APPLIED ONLY TO NON-MEDICAL SCHOOL SOURCES % of Applicants (9)
ALL STUDENTS*	4059	92.3	2032	97.5	1306	89.3	721	84.7
PARENTAL INCOME:								
Less than $5,000	349	97.5	193	99.0	119	96.0	37	94.9
$5,000-9,999	564	95.4	307	98.1	201	95.7	56	82.4
$10,000-19,999	1637	94.4	867	98.2	526	91.6	244	87.8
$20,000-29,999	853	88.4	416	96.3	276	82.1	161	81.7
$30,000-49,999	396	88.6	152	93.8	108	85.0	136	86.1
$50,000 or more	153	80.5	49	94.2	34	73.9	70	76.1
PREVIOUS DEBT:								
Less than $2,500	1779	90.2	785	96.2	596	85.9	400	86.4
$2,500-4,999	926	94.3	477	97.9	310	92.5	139	86.9
$5,000-7,499	604	94.5	341	98.6	184	91.5	79	85.9
$7,500-9,999	349	94.3	195	99.0	104	93.7	50	80.6
$10,000 or more	399	91.9	234	97.9	112	92.6	53	71.6

* Since the number of no responses varies among the characteristics given in column 1, the total for a particular characteristic may not add to the total for "All Students."

area practice received financial aid. Table 8 shows that students with the above interests were no more successful than their counterparts in receiving aid. However, because of the general success in obtaining aid, very few of those interested in primary care of physician shortage areas were refused aid.

In summary, personal characteristics appear to be less related to the receipt of aid than to the application for such aid. This lack of relationship is probably due to the fact that almost all students who applied for aid in 1974-75 received it. This high success rate will undoubtedly decrease if financial aid becomes less available. In that event, there could well be a stronger relationship between personal characteristics and receipt of aid.

Table 8

Number and Proportion of Medical Students Receiving Aid by Career Plans, 1974-75

CAREER PLANS	TOTAL RECIPIENTS		RECIPIENTS WHO APPLIED TO BOTH SOURCES		RECIPIENTS WHO APPLIED ONLY TO MEDICAL SCHOOLS		RECIPIENTS WHO APPLIED ONLY TO NON-MEDICAL SCHOOL SOURCES	
	No.	% of Applicants	No.	% of Applicants	No.	% of Applicants	No.	% of Applicants
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
TOTAL	3689	92.4	1849	97.6	1185	89.3	655	85.0
Both Primary Care And Physician Shortage Area	1361	92.5	707	97.8	419	89.5	235	83.6
Physician Shortage Area Only	712	92.7	373	96.6	225	89.3	114	87.7
Primary Care Only	787	91.8	367	98.9	259	87.2	161	85.2
Neither	829	92.5	402	96.9	282	91.0	145	84.8

B. Comparison of the Financial Situations of Students

As indicated in Section A, medical students differ in their approaches to obtaining aid. A majority of students sought and received aid from both their schools and from outside sources. Some students applied for financial aid but did not receive it. It is assumed that these and students who did not apply for aid depended solely on personal funds and on contributions from parents and other relatives.

In this section, these different patterns of financing are explored further by studying: (1) the comparative roles of the student's personal sources of income and the aid he received in the form of scholarships and loans; (2) the comparative roles of medical schools, federal and state governments, foundations, and banks in providing aid; and (3) the comparative roles of guaranteed and non-guaranteed loans and of scholarships. These comparisons will be made by analyzing the student's relative dependence on specific sources of income, i.e., the proportion of total income supplied by a given source of funds.

In the past 20 years, the role played by students and their families in paying for a medical education has undoubtedly decreased because of the growing availability of other sources of funding. As Table 9 shows, however, the role of the student and his family in providing income in 1974-75 was still substantial when compared with the income obtained from external sources. Overall, 35.3 percent of the students reported no income from institutional sources, while only 6.1 percent of the students said they had no income from personal sources. On the other end of the distribution, 15.3 percent of all students received at least four-fifths of their income from institutional sources, whereas over 36 percent of the students received over four-fifths of their income from personal sources.

The median values, which summarize the distributions, show the difference in roles played by the two sources of aid. Of those students receiving income from these sources, 63 percent of this income came from personal resources, 25 percent came from outside sources, and 12 percent came from unspecified sources. Although these medians present a broad picture of the role of alternative sources of income, they do not fully reflect the true situation. For example, because many students (33.6 percent) who did not apply for scholarships

Table 9

Proportion of Student's Total Income Received From Personal And Institutional Sources, 1974-75 §

PROPORTION OF INCOME RECEIVED (1)	PERSONAL INCOME* Number (2)	PERSONAL INCOME* Percent (3)	TOTAL INSTITUTIONAL INCOME† Number (4)	TOTAL INSTITUTIONAL INCOME† Percent (5)
ALL STUDENTS	7261	100.0	7261	100.0
No Income	443	6.1	2566	35.3
Income Greater Than 0	6818	93.9	4695	64.7
1% to 20%	972	13.4	793	10.9
21% to 40%	1020	14.0	1041	14.3
41% to 60%	998	13.7	908	12.5
61% to 80%	1153	15.9	839	11.6
81% to 100%	2675	36.8	1114	15.3
MEDIAN PROPORTION RECEIVED	63.4 %		25.2%	

* Includes income from self, spouse, parents, and other relatives.

† Includes income from scholarships/non-repayable funds and loans.

§ Table does not give data on income from unspecified sources, which constituted approximately 12 percent of income received.

and loans during 1974-75 were used in calculating these base medians, the role of institutional aid is underrepresented for those students who requested such aid. In addition, the statistics cited relative to the role played by personal resources do not highlight the significant role played by spouses in supporting medical students. The tables that follow provide further data on these topics.

1. Personal Sources of Income

Medical students can draw upon several sources of what will be referred to as personal income. Three such sources are the student's own earnings, spouse's earnings, and contributions from the student's parents and other relatives. The comparative role played by each of these sources is shown in Tables 10-14 relative to three groups of students: (1) those who did not apply for aid, (2) those who applied but did not receive aid, and (3) those who received aid. Comparisons of these three groups were used to measure the degree to which different personal resources were called upon to meet student financial needs in 1974-75.

The role of the student's earnings in financing his or her education might be expected to be small, given the academic time demands made upon medical students. This is substantiated by the finding that although slightly over half of the students (52.3 percent) reported income from earnings, only 5.7 percent earned more than 40 percent of their total income (see Table 10). The finding that the median proportion of income from student employment was only 1.3 percent further emphasizes the relatively small part played by this source of funds.

When non-recipients, applicants not receiving aid, and those receiving aid are compared, it is evident that earnings were most important for those students applying for but not receiving aid. But even for these students, earnings accounted for a median of only about 7 percent of their income.

A more substantial source of income for married students was the spouse. As observed in Table 11, only 17 percent of married students received no income from their spouses, and the median student received 46 percent of his/her total income from this source. Spouse's earnings were most important for those applicants who did not receive aid (median equaled 64 percent of their income) and for non-applicants (54 percent), and were least important for those who received aid (40.1 percent). For all three groups, this was a major source of income. It should be remembered, however, that since the majority of medical students during 1974-75 were single, the role

Table 10

Relationship Between Income From Student Earnings and Receipt of Aid, 1974-75

PROPORTION OF STUDENT'S INCOME FROM OWN EARNINGS	TOTAL STUDENTS		DID NOT RECEIVE AID				RECEIVED AID	
			NON-APPLICANTS		APPLICANTS			
(1)	No. (2)	% (3)	No. (4)	% (5)	No. (6)	% (7)	No. (8)	% (9)
ALL STUDENTS	7261	100.0	2227	30.7	339	4.7	4695	64.7
No Earnings	3460	47.7	1090	48.9	124	36.6	2246	47.8
Earnings Greater Than 0	3801	52.3	1137	51.1	215	63.4	2449	52.2
1 % to 20%	2499	34.4	727	32.6	125	36.9	1647	35.1
21% to 40%	887	12.2	233	10.5	58	17.1	596	12.7
41% to 60%	261	3.6	84	3.8	14	4.1	163	3.5
61% to 80%	90	1.2	44	2.0	10	2.9	36	.8
81% to 100%	64	.9	49	2.2	8	2.4	7	.1
MEDIAN PROPORTION FROM EARNINGS	1.4%		.7%		7.3%		1.2%	

Table 11

Relationship Between Income Received From Spouse

And Receipt of Financial Aid, 1974-75

PROPORTION OF STUDENT'S INCOME FROM SPOUSE	TOTAL STUDENTS		DID NOT RECEIVE AID				RECEIVED AID	
			NON-APPLICANTS		APPLICANTS			
(1)	No. (2)	% (3)	No. (4)	% (5)	No. (6)	% (7)	No. (8)	% (9)
ALL MARRIED STUDENTS	2763	100.0	809	29.3	119	4.3	1725	62.4
No Income	466	16.9	119	14.7	6	5.0	331	19.2
Income Greater Than 0	2297	83.1	690	85.3	113	95.0	1494	80.8
1% to 20%	340	12.3	95	11.7	10	8.4	235	13.6
21% to 40%	393	14.2	87	10.8	12	10.1	294	17.0
41% to 60%	578	20.9	145	17.9	24	20.2	409	23.7
61% to 80%	648	23.5	180	22.2	35	29.4	433	25.1
81% to 100%	338	12.2	183	22.6	32	26.9	123	7.1
MEDIAN PROPORTION RECEIVED	46.3%		54.3%		64.3%		40.1%	

of this source would not be as significant when all students are considered.

In addition to the two sources examined above, the student may also draw income from savings, dividends on stocks and bonds, armed forces active-duty or reserve pay, and from other miscellaneous sources. These sources, when combined with the earnings of both student and spouse, represent the total financial effort of the student in paying for his or her own education.

Table 12 reports on the role of these combined sources. As indicated, 19.3 percent of the students receive no income from these sources, while approximately one quarter (24.7 percent) of the students derived 60 percent or more of their income through such sources. The particularly significant role of this kind of income for applicants not receiving aid is evident from the finding that the median student in this category drew 37.3 percent of his/her income from these sources. Non-applicants used their own resources to a significant but lesser degree. For students receiving aid, the role played by these sources was less, the median student in this group deriving 19.6 percent of his/her income from these sources (i.e., own or spouse's resources).

As indicated above, a substantial proportion of students neither received financial aid nor drew to a significant extent upon their own immediate resources such as earnings or savings. For these students, in particular, the question arises regarding the extent that financial support was obtained from relatives, including their parents.

Table 13 indicates that, overall, slightly more than half (53.8 percent) of the students received income from their parents or relatives other than spouse and in-laws during 1974-75. Almost three-quarters (72.5 percent) of non-applicants received contributions from such relatives, with the median student in this category deriving 31.6 percent of his/her income from this source. The role of this kind of income for applicants who did not receive aid was small (median equals 8.9 percent). Since more than half of those who received financial aid had no income from these relatives, their median funding from this source was zero.

Table 12

Relationship Between Both Student's and Spouse's Total Income

And Receipt of Financial Aid, 1974-75*

PROPORTION OF STUDENT'S INCOME RECEIVED FROM SELF AND SPOUSE	TOTAL STUDENTS		DID NOT RECEIVE AID				RECEIVED AID	
			NON-APPLICANTS		APPLICANTS			
(1)	No. (2)	% (3)	No. (4)	% (5)	No. (6)	% (7)	No. (8)	% (9)
ALL STUDENTS	7261	100.0	2227	30.7	339	4.7	4695	64.7
No Income	1403	19.3	360	16.2	44	13.0	999	21.3
Income Greater Than 0	5858	80.7	1867	83.8	295	87.0	3696	78.7
1% to 20%	2081	28.7	612	27.5	91	26.8	1378	29.4
21% to 40%	1158	15.9	312	14.0	40	11.8	806	17.2
41% to 60%	827	11.4	202	9.1	35	10.3	590	12.6
61% to 80%	919	12.7	249	11.2	39	11.5	631	13.4
81% to 100%	873	12.0	492	22.1	90	26.5	291	6.2
MEDIAN PROPORTION RECEIVED	22.5%		29.1%		37.3%		19.6%	

* Includes Armed Services pay and income from savings, trusts, stocks, bonds, and investments, and student and spouse's earnings.

The last table in this section (Table 14) concerns the role of total contributions from all parents, in-laws and other relatives, excluding spouses. As indicated in this table, 63.6 percent of all students received aid from such relatives, with the median proportion of this aid to their total income being 11.3 percent. This source was particularly important for non-applicants (who averaged approximately half of their income from these relatives) and for applicants who did not receive

Table 13

Relationship Between Income Received From Parents and Relatives* And Receipt of Financial Aid, 1974-75

PROPORTION OF STUDENT'S INCOME RECEIVED FROM PARENTS AND RELATIVES	TOTAL STUDENTS		DID NOT RECEIVE AID				RECEIVED AID	
			NON-APPLICANTS		APPLICANTS			
(1)	No. (2)	% (3)	No. (4)	% (5)	No. (6)	% (7)	No. (8)	% (9)
ALL STUDENTS	7261	100.0	2227	30.7	339	4.7	4695	64.7
No Income	3356	46.2	612	27.5	146	43.1	2598	55.3
Income Greater Than 0	4905	53.8	1615	72.5	193	56.9	2097	44.7
1% to 20%	1692	23.3	361	16.2	53	15.6	1278	27.2
21% to 40%	693	9.5	243	10.9	33	9.7	417	8.9
41% to 60%	460	6.3	204	9.2	17	5.0	239	5.1
61% to 80%	410	5.6	256	11.5	34	10.0	120	2.6
81% to 100%	650	9.0	551	24.7	56	16.5	43	.9
MEDIAN PROPORTION RECEIVED		3.2%		31.6%		8.9%		0%

* Parents and relatives do not include in-laws or spouses.

Table 14

Relationship Between Income Received From All Relatives and In-Laws (Excluding Spouse) And Receipt of Financial Aid, 1974-75

PROPORTION OF STUDENT'S INCOME RECEIVED FROM ALL RELATIVES & IN-LAWS	TOTAL STUDENTS		DID NOT RECEIVE AID				RECEIVED AID	
			NON-APPLICANTS		APPLICANTS			
(1)	No. (2)	% (3)	No. (4)	% (5)	No. (6)	% (7)	No. (8)	% (9)
ALL STUDENTS	7261	100.0	2227	30.7	339	4.7	4695	64.7
No Income	2644	36.4	407	18.3	82	24.2	2155	45.9
Income Greater Than 0	4617	63.6	1820	81.7	157	75.8	2540	54.1
1% to 20%	1739	23.9	327	14.7	42	12.4	1370	29.2
21% to 40%	880	12.1	269	12.1	44	13.0	567	12.1
41% to 60%	609	8.4	225	10.1	29	8.6	355	7.2
61% to 80%	525	7.2	295	13.2	43	12.7	187	4.0
81% to 100%	864	11.9	704	31.6	99	29.2	61	1.3
MEDIAN PROPORTION RECEIVED	11.3%		49.8%		41.0%		2.8%	

aid (who obtained 41 percent of their incomes from this source).

Major findings of Section B.1 are summarized below:

1. Married medical students generally depend to a large degree on their spouses for income.

2. Non-applicants depend for the most part on parents and other relatives for support.

3. Applicants who did not receive aid depended on a variety of sources, including their own earnings,

spouse's earnings, and contributions from relatives. These students showed the greatest relative dependence on their own resources.

4. Most aid recipients derived the majority of their funding from the aid received. These students, if married, also usually received income from their spouses.

2. Institutional Sources of Aid

As indicated earlier in this section, just over 35 percent of medical students received no aid during 1974-75. Conversely, 15.3 percent received almost all their income from financial aid. Of the various institutional sources providing financial aid, the federal government, which provided at least some funding to over 40 percent of the students, played the largest role (see Table 15). These federal programs provided a median of 30.8 percent of the income of those students who received aid from institutional sources.

Banks constituted the second most important institutional source of aid, serving approximately one-quarter (26.7 percent) of the students and providing approximately 29 percent of the income for students who received aid from this source. Comparatively, the difference in the roles of the federal government and of banks was large when the relative proportion of students funded was considered. However, when the degree of support per student is examined, the roles of the federal government and of banks were comparable, as indicated by the similarity of their respective median incomes.

The third most important institutional source of income for medical students was the medical schools, which provided aid from their own funds to almost a quarter of the students during 1974-75. The median proportion of such income supplied by the schools was almost 20 percent. When compared with banks, the medical schools supplied aid to almost the same relative number of students (23.3 vs. 26.7 percent). For students receiving aid from medical schools, the aid accounted for 19.1 percent of their total incomes in 1974-75. Funds received

Table 15

Proportion of Student Income Received From Institutional Sources, 1974-75

PROPORTION OF INCOME RECEIVED FROM SOURCE	TOTAL AID		SOURCE OF AID									
			MEDICAL SCHOOLS*		FEDERAL GOVERNMENT		STATE GOVERNMENT		FOUNDATIONS		BANKS	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
ALL STUDENTS	7261	100.0	7261	100.0	7261	100.0	7261	100.0	7261	100.0	7261	100.0
No Income	2566	35.3	5567	76.7	4244	58.4	6566	90.4	6632	91.3	5321	73.3
Income Greater Than 0	4695	64.7	1694	23.3	3017	41.6	695	9.6	629	8.7	1940	26.7
1% to 20%	793	10.9	885	12.2	976	13.4	451	6.2	353	4.9	547	7.5
21% to 40%	1041	14.3	510	7.0	982	13.5	154	2.1	230	3.2	954	13.1
41% to 60%	908	12.3	209	2.9	544	7.5	59	.8	42	.6	344	4.7
61% to 80%	839	11.6	58	.8	278	3.8	18	.2	4	.1	76	1.0
81% to 100%	1114	15.3	32	.4	237	3.3	13	.2	0	-	19	.3
MEDIAN PROPORTION FOR THOSE RECEIVING AID	51.3%		19.1%		30.8%		15.4%		17.8%		28.9%	

* Limited to funds provided by the school. Excludes funds administered by the school but provided by federal or state government or by private foundations.

from banks, however, accounted for 28.9 percent of the income of recipients of bank loans.

The final two institutional sources considered here are foundations and state governments, each of which provided similar support levels for students. This was true as regards the total proportion of students aided (approximately 9 percent each) and the relative proportion

of income received from these sources (between 15 and 18 percent).

Table 16 presents data on the comparative roles of loans and scholarships in financing medical students during 1974-75. As shown, scholarships and loans each were awarded to almost half of the students. However, the median proportion of income supplied via loans (37.6 percent) was significantly higher than that provided via scholarships (25.6 percent). These results may reflect more restrictive access to scholarships since such funds include special-purpose awards based on academic performance, career interest, or other non-financial criteria.* In addition, with the increase in the amount of loan money made available during the 70s by the federal government, students were able to add funds received from such types of loans to funds received from more traditional lending sources.

Table 16 also reports on the comparative roles of guaranteed and non-guaranteed loans. The data indicate a similarity between the two, both in the proportion of students gaining income from these sources and in the proportionate amount of support for students utilizing these sources. Although the proportion of students receiving non-guaranteed vs. guaranteed loans was slightly higher (36.4 vs. 29.8 percent), their median contribution to student income was slightly less (25.3 vs. 28.6 percent).

When compared with scholarships, each of these types of loans, although reaching relatively fewer students, provided equivalent amounts of support for recipients (slightly over one-quarter of their income).

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* A pertinent example of restricted access involves the Health Professions Scholarships, which in recent years have not been awarded to first-year medical students.

Table 16

Proportion of Student Income Received From Loans and Scholarships, 1974-75

PROPORTION OF INCOME RECEIVED OF TYPE	TOTAL AID		TYPE OF AID: GUARANTEED LOANS		NON-GUARANTEED LOANS		TOTAL LOANS AND OTHER REPAYABLE FUNDS		SCHOLARSHIPS AND OTHER NON-REPAYABLE FUNDS	
	No.	%	No.	%	No.	%	No.	%	No.	%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
ALL STUDENTS	7261	100.0	7261	100.0	7261	100.0	7261	100.0	7261	100.0
No Income	2566	35.3	5097	70.2	4621	63.6	3773	52.0	3958	54.5
Income Greater Than 0	4695	64.7	2164	29.8	2640	36.4	3488	48.0	3303	45.5
1% to 20%	793	10.9	643	8.9	1073	14.8	790	10.9	1404	19.3
21% to 40%	1041	14.3	1026	14.1	935	12.9	1084	14.9	885	12.2
41% to 60%	908	12.5	392	5.4	427	5.9	901	12.4	521	7.2
61% to 80%	839	11.6	90	1.2	136	1.9	489	6.7	254	3.5
81% to 100%	1114	15.3	13	.2	69	1.0	224	3.1	239	3.3
MEDIAN PROPORTION FOR THOSE RECEIVING AID	51.3%		28.6%		25.3%		37.6%		25.6%	

IV. SUMMARY AND CONCLUSIONS

Major findings of this study, as they address the study's objectives, can be summarized as follows:

1. Medical students applying for aid during the 1974-75 academic year tended to be (a) from lower-income backgrounds, (b) from underrepresented minorities, (c) from rural hometowns, or (d) married with children.

2. Students with the above characteristics or students who were (a) female, or (b) single tended to apply both to medical schools and other sources. Students described as male, white, married with no children, or from higher-income backgrounds were more apt to apply only to other sources.

3. Almost all students who applied for aid during 1974-75 received at least some financial assistance. More of the students applying to other-than-medical-school sources tended to receive such aid if they were minority or low-income students.

4. Students interested in primary care and/or physician shortage areas experienced no greater success in obtaining aid than did those with other career plans.

5. Personal sources of income (such as student earnings and savings, spouse's earnings, and contributions from parents and other relatives) were the major means of meeting student expenses during 1974-75. For those students not applying for aid, relatives (including parents and spouses) were particularly important sources; for those students applying for but not receiving aid, personal funds were especially significant sources of income. For students who received aid, personal resources were of limited importance except for spouse's income.

6. Almost half (46.2 percent) of the medical students received no income from their parents in 1974-75 and thus might be considered as being "financially emancipated."

Less than 10 percent received more than four-fifths of their income from parents. Of that group, less than 9 percent applied for and fewer than 7 percent received financial aid.

7. For students receiving aid from institutional sources, the federal government and banks were the most substantial providers, followed by the medical schools, state governments, and non-profit foundations.

8. Loans provided 37.6 percent of the income of those medical students receiving aid, while scholarships supplied 25.6 percent of this income.

It should be kept in mind that the above results refer only to students attending medical schools during the 1974-75 academic year. Since, in recent years, growing concern has been expressed over the future ability of medical students to finance their education--especially in view of the dwindling supply of financial aid for these students and the increasing costs involved in obtaining an M.D. degree--it would be advantageous to use these findings to draw some broad conclusions as to how medical students in the future will finance their education.

If the above trends continue, it can be expected that more students will apply for aid but that less aid will be received. From the analysis of the role of personal resources, it is apparent that those students applying for but not receiving aid necessarily depend on their earnings, their spouses' earnings, and their savings to a greater extent than other students. If a growing number of financial aid applicants do not receive aid, it can be expected that more students in the future may have to depend to a greater degree on part-time employment. This could cause some students to encounter academic difficulty and to at least temporarily discontinue their education or to gain less benefit from it. Such undesirable events could have negative effects on the future delivery of health care.

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APPENDIX A

Composition of National Sample by School

APPENDIX A

Composition of National Sample by School
(Listed alphabetically by state)

Medical School	National Sample (Number of Questionnaires) Monitored*	Non-Monitored	Total
Alabama			
Univ. of Alabama	3	57	60
Univ. of South Alabama	3	20	23
Arizona			
Univ. of Arizona	4	38	42
Arkansas			
Univ. of Arkansas	8	62	70
California			
Univ. of California			
Davis	5	56	61
Irvine	5	37	42
Los Angeles	10	80	90
San Diego	1	40	41
San Francisco	0	86	86
†Loma Linda Univ.	0	88	88
Univ. of Southern California	5	66	71
Stanford Univ.	8	50	58
Colorado			
Univ. of Colorado	10	68	78
Connecticut			
Univ. of Connecticut	0	34	34
District of Columbia			
Georgetown Univ.	6	97	103
George Washington Univ.	8	79	87
Howard Univ.	0	65	65
Florida			
Univ. of Florida	0	53	53
Univ. of Miami	0	11	11
Univ. of South Florida	3	19	22
†Florida State Univ.	1	4	5
Georgia			
Emory Univ.	8	55	63
Med. Coll. of Georgia	3	89	92
Hawaii			
Univ. of Hawaii	0	41	41
Illinois			
Univ. of Chicago-Pritzker	6	62	68
Chicago Medical	0	57	57
Univ. of Illinois	6	168	174
Loyola Univ.	7	52	59

Medical School	National Sample (Number of Questionnaires) Monitored*	Non-Monitored	Total
Illinois—(cont'd)			
Northwestern Univ.	0	95	95
Rush Med. Coll.	3	40	43
Southern Illinois Univ.	2	17	19
Indiana			
Indiana Univ.	0	122	122
Iowa			
Univ. of Iowa	0	98	98
Kansas			
Univ. of Kansas	8	66	74
Kentucky			
Univ. of Kentucky	0	62	62
Univ. of Louisville	5	75	80
Louisiana			
Louisiana State Univ.			
New Orleans	7	81	88
Shreveport	0	14	14
Tulane Univ.	9	80	89
Maryland			
Johns Hopkins	7	64	71
Univ. of Maryland	2	91	93
Massachusetts			
Boston Univ.	9	67	76
Univ. of Massachusetts	0	23	23
Tufts Univ.	0	62	62
Michigan			
Michigan State Univ.	8	48	56
Univ. of Michigan	0	142	142
Wayne State Univ.	8	137	145
Minnesota			
Mayo Medical School	2	16	18
Univ. of Minnesota			
Duluth	0	9	9
Minneapolis	17	128	145
Mississippi			
Univ. of Mississippi	15	59	74
Missouri			
Univ. of Missouri			
Columbia	4	61	65
Kansas City	3	21	24

(cont'd)

Medical School	National Sample (Number of Questionnaires) Monitored*	Non-Monitored	Total
Missouri—(cont'd)			
Washington Univ.—St. Louis	1	80	81
Nebraska			
Creighton Univ.	6	60	66
Univ. of Nebraska	6	74	80
Nevada			
Univ. of Nevada	0	14	14
New Hampshire			
Dartmouth Med. School	0	24	24
New Jersey			
College of Med. & Den.			
New Jersey	2	69	71
Rutgers	0	44	44
New Mexico			
Univ. of New Mexico	2	38	40
New York			
Albany Medical Coll.	4	60	64
Albert Einstein Coll. of Med.	3	70	73
Columbia Univ.	1	85	86
Cornell Univ.	0	62	62
Mount Sinai	3	39	42
New York Medical Coll.	0	91	91
New York Univ.	0	99	99
Univ. of Rochester	3	56	59
State Univ. of N.Y.			
Buffalo	0	81	81
Downstate	0	85	85
Upstate	1	71	72
North Carolina			
Bowman Gray	0	52	52
Duke Univ.	0	69	69
*East Carolina Univ.	1	2	3
Univ. of North Carolina	8	63	71
North Dakota			
Univ. of North Dakota	4	22	26
Ohio			
Case Western Reserve Univ.	6	80	86
Univ. of Cincinnati	0	83	83
Med. Coll. of Ohio at Toledo	1	29	30
Ohio State Univ.	15	94	109
Oklahoma			
Univ. of Oklahoma	5	84	89
Oregon			
Univ. of Oregon	5	61	66
Pennsylvania			
Hahneman Med. Coll.	0	81	81
Jefferson Med. Coll.	12	120	132
Med. Coll. of Pennsylvania	6	48	54
Pennsylvania State Univ.	0	49	49
Univ. of Pennsylvania	12	86	98
Univ. of Pittsburgh	9	68	77
Temple Univ.	0	99	99
Rhode Island			
Brown Univ.	1	35	36
South Carolina			
Med. Univ. of South Carolina	0	60	60
South Dakota			
Univ. of South Dakota	4	15	19
Tennessee			
Meharry Med. Coll.	1	61	62
Univ. of Tennessee	11	80	91
Texas			
Baylor Coll. Med.	11	76	87
Texas Tech. Univ.	0	20	20
University of Texas			
Dallas (Southwestern)	0	94	94
Galveston	0	102	102
Houston	1	21	22
San Antonio	4	66	70
Virginia			
Eastern Virginia Med. School	1	8	9
Med. Coll. of Virginia	10	77	87
Univ. of Virginia	4	68	72
Washington			
Univ. of Washington	9	65	74
West Virginia			
West Virginia Univ.	6	44	50
Wisconsin			
Med. Coll. of Wisconsin	8	65	73
Univ. of Wisconsin	6	82	88
Puerto Rico			
Univ. of Puerto Rico	0	47	47
TOTAL	417	6,844	7,261

*Questionnaires for the monitored subsample were screened by school officials to check the accuracy of student responses

†Combined with Florida for most AAMC reports

*Combined with North Carolina for most AAMC reports

APPENDIX B

Survey Instrument

ASSOCIATION OF AMERICAN MEDICAL COLLEGES
SURVEY OF HOW MEDICAL STUDENTS FINANCE THEIR EDUCATION

DIRECTIONS: Please answer all questions by checking the appropriate box or entering the correct figures as indicated. Results of this survey will be used to identify critical problems in financing of medical school education, so it is important that you answer as frankly and accurately as you can and estimate where exact values are not available. When you have completed the questionnaire, return it in the enclosed envelope. No postage is necessary.

CONFIDENTIALITY: The identification number on your questionnaire is needed by the project staff to process returned questionnaires. You in no way can be identified as an individual and your answers will be strictly anonymous.

I. BIOGRAPHICAL

Information in this section will be used to examine relationship between financial needs and selected background characteristics. Please answer all questions carefully and completely.

1. State of legal residence _____

2. Date entered medical school ____ ____ (MO YR)

3. Date expected to receive M.D. degree: ____ ____ (MO YR)

4. Class level:
   Length of program in which you are now enrolled (years): ☐1 ☐2 ☐3 ☐4 ☐5 ☐6
   Current year: ☐1 ☐2 ☐3 ☐4 ☐5 ☐6

5. Age: ____ 6. Sex: Male ☐1 Female ☐2

7. Marital Status:
   Never Married ☐1 Married ☐2 Widowed ☐3
   Divorced ☐4 Separated ☐5

8. Number of (your own) children:
   ☐0 ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 or more
   Number of other dependents (excluding yourself and your spouse): ☐0 ☐1 ☐2 ☐3 or more

9. Citizenship: U.S. ☐1 Permanent resident visa ☐2
   ☐3 Other (specify) _____

10. Self-Description:
   - ☐ 1. Black/Afro-American
   - ☐ 2. American Indian
   - ☐ 3. White/Caucasian
   - ☐ 4. Mexican/American or Chicano
   - ☐ 5. Oriental/Asian-American
   - ☐ 6. Puerto Rican (Mainland)
   - ☐ 7. Puerto Rican (Commonwealth)
   - ☐ 8. Cuban
   - ☐ 9. Other (specify) _____

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11. Parents' occupation during major part of 1974 (if deceased or retired, mark under "a" and indicate under "b" major occupation prior to retirement or death).

	Father	Mother
a. Retired	1 ☐	1 ☐
Deceased	2 ☐	2 ☐
b. Clerical worker	1 ☐	1 ☐
Farmer, farm manager	2 ☐	2 ☐
Farm foreman, farm laborer	3 ☐	3 ☐
Health worker — dentist, optometrist, pharmacist, podiatrist, veterinarian	4 ☐	4 ☐
Health worker—physician (M.D., D.O.)	5 ☐	5 ☐
Health worker—other than above	6 ☐	6 ☐
Homemaker	7 ☐	7 ☐
Owner, manager, administrator (non-farm)	8 ☐	8 ☐
Professional, non-health-related (e.g., clergyman, engineer, lawyer, teacher, etc.)	9 ☐	9 ☐
Sales worker	10 ☐	10 ☐
Skilled worker, craftsman	11 ☐	11 ☐
Transport or equipment operator	12 ☐	12 ☐
Unskilled worker, laborer, private household worker (non-farm)	13 ☐	13 ☐

12. Parent's highest education level:

	Father	Mother
Eighth grade or less	1☐	1☐
Some high school	2☐	2☐
Completed high school	3☐	3☐
Specialized business or technical training	4☐	4☐
Some college	5☐	5☐
Completed college	6☐	6☐
Some graduate or professional school	7☐	7☐
Completed graduate or professional school	8☐	8☐

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13. Number of individuals other than yourself who are dependent on your parents for financial support: [ ]

14. Parents' estimated gross income for 1974:

1 ☐ Less than $5,000
2 ☐ $ 5,000 - 7,499
3 ☐ $ 7,500 - 9,999
4 ☐ $10,000 - 12,499
5 ☐ $12,500 - 14,999
6 ☐ $15,000 - 19,999
7 ☐ $ 20,000 - 24,999
8 ☐ $ 25,000 - 29,999
9 ☐ $ 30,000 - 49,999
10 ☐ $ 50,000 - 99,999
11 ☐ $100,000 - or more

15. Where did you spend the major portion of your pre-college years? (Mark only one that *best* describes the area.)

1 ☐ Large City (population 500,000 or more)
2 ☐ Suburb of a large city
3 ☐ City of moderate size (population 50,000-500,000)
4 ☐ Small city (population 10,000 - 50,000)
5 ☐ Small town (population less than 10,000)
6 ☐ Farm, rural or unincorporated area

NOTE: Because your answers regarding resources, expenses and indebtedness are critical to the validity of this survey, please enter your responses carefully in Sections II, III and IV. For example, the entry for $1500.00 should be $|1|5|0|0|.00 and not $|1|5|0|0|0|.00 or $| |1|5|0|.00

II. RESOURCES

Information in this section will be used to summarize the resources which are currently available to medical students for education and living. Please estimate as accurately as you can the amounts of money you received or expect to receive from any source **during the current year** (July 1, 1974 to June 30, 1975).

16. Did you apply for financial aid for the current school year via your medical school? ☐ Yes 1 ☐ No 2

Did you apply for financial aid for the current school year via other sources? ☐ Yes 1 ☐ No 2

Show below the amounts of money which have become or will be available to you to meet your expenses in the year beginning July 1, 1974 and ending June 30, 1975. (Please indicate in whole dollars).

Earnings and Income Before Taxes
(July 1, 1974 to June 30, 1975)

17. Your earnings—from employment $| | | | | | .00
18. Armed Forces active duty or reserve pay $| | | | | | .00
19. Spouse's earnings/income $| | | | | | .00
20. Income from savings, trusts, stocks, bonds, investments. $| | | | | | .00
21. Other earnings (specify) $| | | | | | .00

Gifts (July 1, 1974 to June 30, 1975)

22. Parents' and relatives' contributions $| | | | | | .00
23. Spouse's parents' and/or relatives' contributions $| | | | | | .00
24. Other Gifts (Specify) _____ $| | | | | | .00

Scholarships, Grants, and Other Non-Repayable Funds
(July 1, 1974 to June 30, 1975)

25. Federal Health Professions Scholarship Program $| | | | | | .00
26. Robert Wood Johnson Scholarship $| | | | | | .00
27. Grant(s) from school funds (Including tuition remission or waiver) $| | | | | | .00
28. Veterans benefits $| | | | | | .00
29. Public Health Service Scholarship $| | | | | | .00
30. Physician Shortage Area Scholarship $| | | | | | .00
31. Armed Forces Health Professions Scholarship Program $| | | | | | .00
32. NIH-supported research fellowship or traineeship, research grant, clinical fellowship, etc. $| | | | | | .00
33. State/State Medical Society Scholarship $| | | | | | .00
34. Other (specify) _____ $| | | | | | .00

Loans and Other Repayable Funds
(July 1, 1974 to June 30, 1975)

35. Federal Health Professions Student Loan $| | | | | | .00
36. National Direct Students Loan/ National Defense Education Student Loan $| | | | | | .00
37. Guranteed school loan (where the school is the authorized lender) $| | | | | | .00
38. School loan (not guaranteed by state or federal government) $| | | | | | .00
39. Robert Wood Johnson Loan $| | | | | | .00
40. Private bank loan (not guaranteed by state or federal government) $| | | | | | .00
41. Guaranteed (insured) student bank loan $| | | | | | .00
42. American Medical Association Education and Research Foundation (AMA-ERF) loan $| | | | | | .00

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43. Family loan $| | | | | |.00

44. Personal loan (from an individual other than family) $| | | | | |.00

45. Other (specify) _____ $| | | | | |.00

Other Resources

46. Any other resources you have available for meeting medical school expenses for the 1974-75 school year (e.g. trusts, savings accounts, etc.) (Specify)_____ $| | | | | |.00

_____ $| | | | | |.00

_____ $| | | | | |.00

_____ $| | | | | |.00

III. ANNUAL EXPENSES

Please estimate as accurately as you can the total amount (in dollars) that you have spent or expect to spend for yourself and your dependents during the year beginning July 1, 1974 and ending June 30, 1975.

Education Expenses (Your Own)

47. Tuition and Fees $| | | | | |.00

48. Books, Instruments and Equipment $| | | | | |.00

Other Expenses (Yours and Dependents)

49. Lodging (rent, house payment, home maintenance, etc.) $| | | | | |.00

50. Food $| | | | | |.00

51. Clothing $| | | | | |.00

52. Health Care $| | | | | |.00

53. Transportation (including auto expenses) $| | | | | |.00

54. Other Expenses (entertainment, spouses' educational expenses, taxes, etc.) $| | | | | |.00

IV. INDEBTEDNESS

55. Home loan mortgage (if any) $| | | | | |.00

Please estimate your total indebtedness in dollars (excluding home mortgage):

56. Total Indebtedness upon entrance to medical school $| | | | | |.00

57. Current indebtedness (as of June 30, 1975) $| | | | | |.00

58. Anticipated indebtedness upon graduation (based on current school costs) $| | | | | |.00

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V. EMPLOYMENT

Please indicate employment (if any) during the 1974-75 school year.

59. Average number of hours per week you worked during school vacation [ ]

60. Average number of hours per week you worked while actually attending school [ ]

61. Average number of hours per week your spouse worked [ ]

VI. CAREER PLANS

Your answers in this section will provide information regarding relationships between career plans and student financing. Although your plans may be somewhat tentative at this time, please be as specific as you can in indicating your present plans or preferences for your future career.

62. Please indicate the type of **activity** listed below to which you plan to devote the majority of your medical career. (Mark only one)

- ☐ 1. Patient care
- ☐ 2. Research
- ☐ 3. Teaching
- ☐ 4. Administration
- ☐ 5. Other (specify) _____
- ☐ 6. Undecided

63. Please indicate the type of **environment** you now contemplate for the majority of your medical career. (Mark only one.)

- ☐ 1. Individual practice
- ☐ 2. Partnership practice
- ☐ 3. Private group practice
- ☐ 4. Hospital-based group practice (except federal)
- ☐ 5. Academic health center
- ☐ 6. Federal government service
- ☐ 7. Public health (except federal)
- ☐ 8. Industrial
- ☐ 9. Other (specify) _____
- ☐ 10. Undecided

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64. Please indicate your present plans concerning specialization by choosing one of the following: (Mark only one.)

- ☐ 1. Anesthesiology
- ☐ 2. Basic Medical Science
- ☐ 3. Family Medicine/General Practice
- ☐ 4. Internal Medicine – general
- ☐ 5. Internal Medicine – subspecialty
- ☐ 6. Obstetrics/Gynecology
- ☐ 7. Ophthalmology
- ☐ 8. Otolaryngology
- ☐ 9. Pathology
- ☐ 10. Pediatrics – general
- ☐ 11. Pediatrics – subspecialty
- ☐ 12. Psychiatry/Child Psychiatry
- ☐ 13. Public health/Preventive medicine
- ☐ 14. Radiology
- ☐ 15. Surgery – general
- ☐ 16. Surgery – subspecialty
- ☐ 17. Other known specialty (specify)_____
- ☐ 18. Plan to Specialize – Specialty Not Known
- ☐ 19. Undecided

65. How many years do you presently plan in residency/intern training?

☐ 1 ☐ 4
☐ 2 ☐ 5
☐ 3 ☐ 6
☐ Unknown

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66. Please indicate the type of area in which you are currently most interested in eventually locating (after completing military or other required service).

(Mark only one that best describes the area.)

- ☐ 1. Large city (population 500,000 or more)
- ☐ 2. Suburb of a large city
- ☐ 3. City of moderate size (population 50,000 to 500,000)
- ☐ 4. Small city (population 10,000 to 50,000)
- ☐ 5. Small town (population less than 10,000)
- ☐ 6. Rural/unincorporated area
- ☐ 7. Undecided

67. Are you interested in locating (other than to fulfill service commitment) in a critically underserved area (current DHEW definition of physician shortage area includes primary care physicians to population ratio of less than 1 to 4,000)?

☐ Yes 1 ☐ No 2

If yes, please indicate preferred nature of area:

- ☐ Rural 1
- ☐ Urban 2
- ☐ No preference 3

VII. **COMMENTS** Enter any comments you may wish to make regarding the financing of your medical education:

APPENDIX C

Results of Statistical Tests

APPENDIX C

Medical Student Finances and Personal Characteristics, 1974-75

Results of Chi-Square (χ^2) Tests of Significance for Tables 1-4

Table No.	Characteristic	χ^2	$\chi^2_{.05}$	df	Significant	χ^2	$\chi^2_{.05}$	df	Significant
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Applied for Aid				Source of Aid			
2	Class Year	4.06	5.99	2	NO	28.89	9.49	4	YES
3	Sex	3.99	3.84	1	YES	38.36	5.99	2	YES
3	Ethnicity	159.75	5.99	2	YES	70.15	9.49	4	YES
3	Marital Status	65.71	5.99	2	YES	74.12	9.49	4	YES
3	Size of Hometown	36.36	5.99	2	YES	9.08	9.49	4	NO
3	Age	43.21	5.99	2	YES	2.45	9.49	4	NO
4	Parental Income	1993.60	11.09	5	YES	234.32	18.31	10	YES
4	Previous Debt	866.77	9.49	4	YES	71.07	15.51	8	YES

Medical Student Finances and Personal Characteristics, 1974-75

Results of Chi-Square (χ^2) Tests of Significance for Tables 5-8

Table No.	Characteristic	$\chi^{2.05}$	df	χ^2	Significant	χ^2	Significant	χ^2	Significant	χ^2	Significant
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
				All Recipients		Applied to both Medical School And Other Sources		Applied to Medical School Only		Applied Only To Non-Medical School Sources	
5	Class Year	5.99	2	11.45	Yes	3.12	No	16.89	Yes	4.33	No
6	Ethnicity	5.99	2	18.73	Yes	2.50	No	6.34	Yes	2.97	No
6	Marital Status	5.99	2	5.17	No	1.92	No	3.73	No	1.41	No
6	Size of Hometown	5.99	2	1.73	No	.40	No	4.32	No	3.20	No
6	Age	5.99	2	6.77	Yes	1.32	No	10.20	Yes	.44	No
7	Parental Income	11.07	5	97.30	Yes	16.90	Yes	49.51	Yes	12.21	Yes
7	Previous Debt	9.49	4	24.62	Yes	9.40	No	16.86	Yes	12.27	Yes
8	Career Plans	7.82	3	.52	No	5.3	No	2.29	No	1.59	No

* U.S. GOVERNMENT PRINTING OFFICE : 1977 O-730-165/1543